



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/803,051 | 03/18/2004 | Ronald S. Plantan | 011351.52877US | 4611 |

23911 7590 04/05/2005

CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

| |
|----------|
| EXAMINER |
|----------|

BURCH, MELODY M

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3683

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,051

Applicant(s)

PLANTAN, RONALD S.

Examiner

Melody M. Burch

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/23/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the the brake caliper and the caliper mount recited in line 5 of claim 16 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
- The phrase "outer radius 7 to an inner radius 8 of friction portion 3" in line 3 of paragraph [0022] does not appear to coincide with the drawings since 7 and 8 appear to be the inner and outer radii of the connecting flange portion 4, respectively as shown in figure 1.

Appropriate correction is required.

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification fails to provide proper antecedent basis of the terms "brake caliper" and "caliper mount" recited in claim 16.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 16-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 16. The phrase "a hub end" in line 8 is indefinite. It is unclear to the Examiner whether the hub end in line 8 is intended to be the same or different from that claimed in line 3 of claim 16.

The remaining claims are indefinite due to their dependency from claim 16.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

mb 3/26/05

7. Claims ~~§~~ 1-5, 7, 8, 10, 11, 13, 16-18, 20, 21, 23, 24, 26, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 2655237 to Benson.

Re: claims 1, 2, and 16. Benson shows in figure 1 a brake disc comprising a hub portion (or flange portion of element 7 shown adjacent element 8, a friction portion 13,20,23,26, and a connecting flange portion 7, wherein the connecting flange portion extends from an outer radius of the hub portion to an inner radius of the friction portion as shown, the connecting flange portion has a length such that when the hub portion and a wheel rim 10 adapted to be mounted on a hub end of a vehicle axle 5 are located at the hub end of the axle, the friction portion is outboard of the wheel rim as shown, and the friction portion has an outer radius shown at the rightmost part of element 13 greater than an inner radius of the wheel rim as shown.

Re: claim 3. Benson shows in figure 1 the brake disc being a one-piece brake disc in the sense that the parts are combined to form one piece as shown.

Re: claims 4, 5, 17, and 18. Benson shows in figure 1 the limitation wherein at least one heat-conducting limiting section is provided on at least one of the connecting flange portion and the friction portion, particularly the friction portion in the area of the lead line of number 56 as that area includes a section having a reduced thickness.

Art Unit: 3683

Re: claims 7, 8, 20, and 21. Benson shows in figure 1 the limitation wherein at least one ventilation aperture (shown in the area of the portion of element 7 surrounding element 14) is provided in the connecting flange portion.

Re: claims 10, 11, 13, 14, 23, 24, 26, and 27. Benson shows in figure 1 the limitation of wherein a plurality of cooling fins 35 are disposed about (to the right of) an inner radius of the friction portion.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 5, 6, 9, 12, 15, 17, 18, 19, 22, 25, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benson in view of US Patent 3379290 to Hamilton.

Re: claims 4, 5, 6, 7, 17, 18, and 19. Benson describes the invention substantially as set forth above, but in an alternate interpretation does not show the limitation wherein at least one heat-conduction limiting section is provided on at least one of the connecting flange portion and the friction portion.

Hamilton teaches in the figure the limitation wherein at least one heat-conduction limiting section is provided on a connecting flange portion 10 shown beneath element 16.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the connecting flange portion or the friction portion

Art Unit: 3683

of Benson to have included at least one heat-conduction limiting section, as taught by Hamilton, in order to provide a means to reduce the amount of material used to make a portion of the brake disc.

Re: claims 9 and 22. Benson shows in figure 1 the limitation wherein at least one ventilation aperture (shown in the area of the portion of element 7 surrounding element 14) is provided in the connecting flange portion.

Re: claims 12, 15, 25, and 28. Benson shows in figure 1 the limitation of wherein a plurality of cooling fins 35 are disposed about (to the right of) an inner radius of the friction portion.

10. Claims 6, 9, 12, 15, 19, 22, 25, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benson.

Re: claims 6 and 19. Benson describes the invention substantially as set forth above including the limitation of at least one heat conduction limiting section including a section having a reduced thickness, but does not show the limitation wherein the reduced thickness section is ring shaped.

In *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) the court held that the configuration of a claimed object was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration is significant.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the connecting flange portion or the friction portion

of Benson to have included a ring-shaped reduced thickness section in order to provide a means of reducing the amount of material used to make a portion of the brake disc.

Re: claims 9 and 22. Benson shows in figure 1 the limitation wherein at least one ventilation aperture (shown in the area of the portion of element 7 surrounding element 14) is provided in the connecting flange portion.

Re: claims 12, 15, 25 and 28. Benson shows in figure 1 the limitation of wherein a plurality of cooling fins 35 are disposed about (to the right of) an inner radius of the friction portion.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 2937721 to Parrett, 2778453 to Hatfield, 2706018 to DuBois teach the use of brake discs in which the friction portion is located outboard of the wheel rim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3683

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mmb

mmb

March 24, 2005

Melody M. Burch

3/24/05